

ABSTRACT OF THE DISCLOSURE

An optical transmission system and optical transmission devices in the optical transmission system that can achieve a high quality transmission using considerably simple arrangements are disclosed. At a transmitting-end optical transmission device, encoding means having n outputs, forms k data by aligning phases of data on k channels with each other and for generating $(n-k)$ error correction bits for said k data and adding said $(n-k)$ error correction bits to said k data, and wavelength-multiplexing means connected to the encoding means, converts both said k data and said $(n-k)$ error correction bits to n optical signals having different wavelengths and for wavelength-multiplexing said n optical signals so as to be delivered to the optical transmission line. At a receiving-end optical transmission device, wavelength-demultiplexing means separates the wavelength-multiplexed optical signals from the optical transmission line into n optical signals, each corresponding to one of the different wavelengths, and decoding means connected to the wavelength-multiplexing means, generates k error corrected data by correcting error bits using the $(n-k)$ error correction bits contained in said n separated optical signals.